

KT-820 NT

KetaSpire KT-820 NT is the low-flow grade of unreinforced polyetheretherketone (PEEK) supplied in a natural-color pellet form. KetaSpire PEEK is produced to the highest industry standards and is characterized by a distinct combination of properties, which include excellent wear resistance, best-in-class fatigue resistance, ease of melt processing, high purity, and excellent chemical resistance to organics, acids, and bases.

These properties make it well-suited for applications in healthcare, transportation, electronics, chemical processing, and other industrial uses.

KetaSpire KT-820 NT can be easily processed using typical injection molding and extrusion processes. The resin is also available as KetaSpire KT-820P in a natural-color coarse powder form for compounding.

Typical Properties of KetaSpire KT-820 Resin

Property	ASTM Test Method	Typical Values ⁽¹⁾			
		U.S. Customary Units		SI Units	
		Value	Units	Value	Units
Mechanical					
Tensile Strength	D 638	13.8	kpsi	95	MPa
Tensile Modulus	D 638	510	kpsi	3.5	GPa
Tensile Elongation at Yield	D 638	5.2	%	5.2	%
Tensile Elongation at Break [2"(51 mm)/min] ⁽³⁾	D 638	20–30	%	20–30	%
Tensile Elongation at Break [0.2"(5 mm)/min] ⁽³⁾	D 638	>50	%	>50	%
Flexural Strength	D 790	21.2	kpsi	146	MPa
Flexural Modulus	D 790	540	kpsi	3.7	GPa
Izod Impact, Notched	D 256	1.7	ft-lb/in	91	J/m
Izod Impact, Unnotched	D 4812	no break	ft-lb/in	no break	J/m
Thermal					
Deflection Temperature at 264 psi (1.82 MPa)	D 648	315	°F	157	°C
Glass Transition Temperature	D 3418	302	°F	150	°C
Melting Point	D 3418	644	°F	340	°C
Coefficient Linear Thermal Expansion ⁽²⁾	E 831	24	µin/in°F	43	µm/m°C
General and Fabrication					
Specific Gravity	D 792	1.30		1.30	
Water Absorption, 24 hours	D 570	0.1	%	0.1	%
Melt Flow, 400°C, 2.16 kg	D 1238	3.0	g/10 min	3.0	g/10 min
Mold Shrinkage, flow direction	D 955	1.5	%	1.5	%
Mold Shrinkage, transverse direction	D 955	1.8	%	1.8	%

⁽¹⁾ Properties shown are typical of limited production and final specification ranges may vary. Values are typical of uncolored resin, addition of colorants or other additives may alter properties.

⁽²⁾ Measured in flow direction over the temperature range -50°C to 50°C

⁽³⁾ Testing speed

Drying

KetaSpire resins must be dried completely prior to melt processing. Incomplete drying will result in defects in the formed part ranging from surface streaks to severe bubbling. Pellets can be dried on trays in a circulating air oven or in desiccating hopper dryer. Drying conditions recommended are 4 hours at 150°C (300°F).

Injection Molding

KetaSpire resins can be readily injection molded in most screw injection machines. A general purpose screw with a compression ratio in the range of 2.5 to 3.5 to 1 is recommended, as is minimum back pressure. Injection speeds should be as fast as possible, consistent with part appearance requirements. Mold temperatures in the range of 350°F to 400°F (177°C to 204°C) are suggested. Recommended starting point barrel temperature settings are shown in the following table.

Zone heater settings		
Zone	Recommended Barrel Temperatures	
	°F	°C
Rear (Feed)	670	354
Middle	690	365
Front	700	371
Nozzle	705	374

Standard Packaging and Labeling

KetaSpire resins are packaged in polyethylene buckets or cardboard boxes depending upon the order size.

Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.

Product Safety and Emergency Service

For product safety information or a Material Safety Data Sheet on a product of Solvay Advanced Polymers

1 (800) 621-4557

1 (770) 772-8880 outside of U.S.

For information or help in an emergency such as a spill, leak, fire or explosion, call day or night:

Emergency Health Information

1 (800) 621-4590

1 (770) 772-5177 outside of U.S.

Emergency Spill Information

CHEMTREC 1 (800) 424-9300

1 (703) 527-3887 outside of U.S.

collect calls accepted

For Additional Information

Technical Service

1 (800) 621-4557

Customer Service

1 (800) 848-9744

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